REMARKS/ARGUMENTS

Claims 1, 3, 4, 6-9, 11, 12, 14 and new claims 15-22 are now in this application. Claims 2, 5, 10 and 13 are cancelled. Claims 1, 3, 4, 6-9, 11, 12 and 14 are rejected and are amended herein to clarify the invention, to broaden language as deemed appropriate and to address matters of form unrelated to substantive patentability issues.

Claim 1-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayashida et al. (U.S. Patent No. 6,409,596).

The Examiner's rejection is respectfully traversed in view of amendments to independent claims 1, 4, 7, 8, 9 and 12.

Claims 1, 4, 7, 8, 9 and 12 are amended to clarify the manner in which the perspective projection conversion is performed and now specify that the coordinate conversion unit performs perspective projection conversion of "each of the vertex coordinates of the plurality of polygons by using each of the plurality of perspective conversion matrices" (claims 1 and 4) or the step of "performing perspective projection conversion of each of the vertex coordinates of the plurality of polygons by using each of the plurality of perspective conversion matrices" (claims 7 and 9). In a similar manner, claim 8 specifies the step of "performing perspective projection conversion of each fixed data of the vertex coordinates of the plurality of polygons by using each of the plurality of perspective conversion matrices newly transferred" and claim 12 specifies that the coordinate conversion unit comprises a unit for performing perspective projection conversion of "each fixed data of the vertex coordinates of the plurality of polygons fixed by using each of the plurality of perspective conversion matrices newly transferred".

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Claim 1 is also amended to include the feature of claim 2 and claims 7 and 9 are amended to include similar features. Claim 4 is also amended to clarify the features of claim 5 and claims 8 and 12 are amended to include similar features.

An important feature of the invention is the ability to produce images of a plurality of three-dimensional objects by perspective projection conversion by using polygon data and a plurality of different perspective conversion matrices <u>operative on the same polygon data</u>. In the example described in the specification, a three-dimensional object 50 is formed by three polygons A, B and C. By performing the perspective projection conversion of the polygons A, B and C by using a plurality of different perspective conversion matrices, the plurality of different images of objects as shown in FIG. 5 can be produced. Thus, in accordance with the present invention, each of a plurality of pre-defined different conversion matrices (i.e., multiple conversion matrices) is used for the conversion of <u>each</u> of the polygon data to produce plural images of the objects (i.e., all of the conversion matrices are used for the same polygon data).

Hayashida et al. describes a game device including a geometrizer 110 which receives shape data from a shape data ROM 111 and obtains data by perspectively converting shape data designated by a conversion matrix sent from a CPU 101 and converting the coordinate system to a view coordinate system in the three-dimensional space (col. 8, lines 49-58). Hayashida et al. also shows renewing the conversion matrix when the viewpoint is switched (col. 14, lines 58-67).

The Examiner takes a position that renewing the conversion matrix is substantially similar to the implementation of a plurality of conversion matrices. This position is respectfully traversed because the use of a plurality of conversion matrices

on the same polygon data (as in the invention) is substantially different than the use of different conversion matrices at different times for different polygon data (as in Hayashida et al.).

As now set forth in the claimed embodiments of the invention, a plurality of conversion matrices are used (at the same time) for the same polygon data (the same vertex coordinates of the plurality of polygons) to produce a plurality of images of objects (e.g., multiple conversion matrices are effective to provide multiple objects for a single viewpoint). In the invention, the conversion matrices are not used individually and selectively according to a change of the viewpoint as described in Hayashida et al. Therefore, performing perspective projection conversion of each of the vertex coordinates of a plurality of polygons by using each of a plurality of perspective conversion matrices as in the claimed invention is clearly different from renewing the conversion matrix described in Hayashida et al.

In view of the changes to the claims and the arguments set forth above, it is respectfully submitted that the Examiner's rejection of the claims under 35 U.S.C. §103(a) as being unpatentable over Hayashida et al. has been overcome and should be removed.

New claims 15-20 generally recite the feature of the perspective projection conversion being performed to produce a plurality of images of three-dimensional objects by using the same set of the vertex coordinates of the plurality of polygons and the different perspective conversion matrices. This feature is also not disclosed in the Hayashida et al. reference.

New claims 21 and 22 recite that by performing perspective projection conversion of each of the vertex coordinates of the plurality of polygons by using each of the plurality of perspective conversion matrices, a plurality of the conversion matrices are used at the same time.

Applicant respectfully requests a one month extension of time for responding to the Office Action. Please charge the fee of $110 for the extension of time to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Please charge any deficiency or credit any overpayment to Deposit Account No. 10-1250.

Respectfully submitted,
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